

# Tortoise beetles (Coleoptera, Chrysomelidae, Cassidinae) captured with Malaise traps on PROFAUPAR and PROVIVE projects (Paraná, South Brazil)

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**ABSTRACT:** A list of Cassidinae s. str. species collected with Malaise traps on PROFAUPAR and PROVIVE projects conducted in Paraná, Southern Brazil, is presented. Along four years of sampling, 176 specimens of Cassidinae s.str. were collected totalizing 16 genera and 39 species. Among them, 22 species represent new records to Paraná, 11 are new registers to South Brazil and one species, *Microtenochira achardi* (Spaeth, 1926), is registered to Brazil for the first time. The richest genera were *Charidotis*, with 12 species, followed by *Microtenochira*, with seven species and *Charidotella*, with three species. The most abundant species was *Charidotis consentanea* (Boheman, 1855), with 26 specimens.

## INTRODUCTION

Chrysomelidae, or leaf beetles, comprise one of the largest animal families with more than 38,000 species arranged in approximately 2,500 genera and 11 subfamilies (Lawrence 1982; Seeno and Wilcox 1982; Reid 1995; 2000). This remarkable diversity, coupled with a worldwide distribution and phytophagous diet, attributes to chrysomelids considerable ecological and economic significance. In South America approximately 9,140 species of Chrysomelidae are registered, of which 4,362 species, distributed in 356 genera, occur in Brazil, representing 35% of species and 64% of genera recognized for Neotropical region (Costa 1999; 2000).

The subfamily Cassidinae comprises approximately 16% of chrysomelid species diversity and is the second largest subfamily in Chrysomelidae after Galerucinae (Chaboo 2007). Cassidinae s. str. (Tortoise beetles *sensu* Chaboo 2007) constitutes a moderately sized group of 2,906 described species, in 154 genera, arranged into 19 tribes (Seeno and Wilcox 1982) or 14 tribes (Borowiec and Swietojanska 2012). They are nearly cosmopolitan, with greater diversity in the tropics, especially on the tropical South America. In Brazil, 71 genera and 835 species are known, whereas in Paraná 77 species have been registered (Borowiec 1999; Borowiec and Swietojanska 2012).

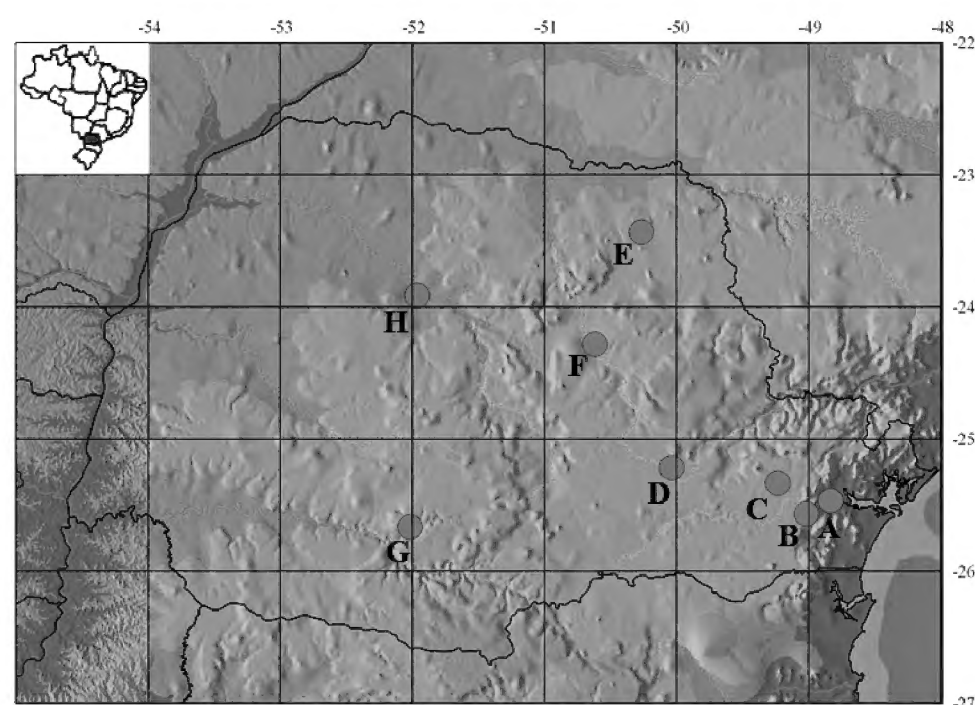
During the survey projects “Levantamento da Fauna Entomológica no Estado do Paraná” (PROFAUPAR) and “Levantamento da Fauna Entomológica do Parque Estadual de Vila Velha” (PROVIVE), the family Chrysomelidae was one of the most collected groups of Coleoptera (Marinoni and Dutra 1997; Ganho and Marinoni 2003; Linzmeier and Ribeiro-Costa 2011). Among them, 39 species of Cassidinae s. str., attributed to 16 genera, were collected. A list of the Cassidinae s. str., as well as new distribution occurrence registers for 22 species, including one new to Brazil, are presented herein.

## MATERIALS AND METHODS

### Study Sites

The data presented herein were obtained via two entomological survey projects conducted on Paraná state. The first project (PROFAUPAR) was designed to examine the entomological diversity in representative areas of different environments, by sampling eight sites over a two years period, from August 1986 to July 1988 (Marinoni and Dutra 1993). The localities (Figure 1) were placed in different floristic and geomorphological regions as follows:

- **Antonina** (25°28'00" S, 48°50'00" W), at coastal Atlantic Forest (Figure 1A);
- **São José dos Pinhais** (25°34'00" S, 49°01'00" W), coastal mountains in a transitional area between montane Atlantic Rainforest and Araucaria Forest (Figure 1B);



**FIGURE 1.** PROFAUPAR and PROVIVE localities: (A) Antonina; (B) São José dos Pinhais; (C) Colombo; (D) Ponta Grossa; (E) Telêmaco Borba; (F) Jundiá do Sul; (G) Guarapuava; (H) Fênix.

- **Colombo** (25°20'00" S, 49°14'00" W), first plateau in region characterized as montane Araucaria Forest (Figure 1C);
- **Ponta Grossa** (25°13'02" S, 50°02'14" W), second plateau, with predominance of montane Araucaria Forest (Figure 1D);
- **Telêmaco Borba** (24°17'00" S, 50°37'00" W), second plateau, also characterized as montane Araucaria Forest (Figure 1E);
- **Guarapuava** (25°40'00" S, 52°01'00" W), third plateau, in a transitional area between Araucaria and Semideciduous Atlantic Forest (Figure 1F);
- **Jundiaí do Sul** (23°26'00" S, 50°16'00" W), second plateau, dominated by Semideciduous Atlantic Forest (Figure 1G);
- **Fênix** (23°54'51" S, 51°57'45" W), third plateau, characterized as Semideciduous Atlantic Forest (Figure 1H).

Detailed information of each site (*i.e.*, floristic description, climatic data and phytogeographic classification) is available in Marinoni and Dutra (1993).

The second project (PROVIVE) assessed the entomofauna in areas with different levels of conservation resulting from different degrees of anthropogenic interference, with sampling being performed in five areas of the "Parque Estadual de Vila Velha, Ponta Grossa", during two years, from September 1999 to August 2001 (Ganho and Marinoni 2003). The areas are: (1) an edge area of transition between field and Araucaria Forest; (2) unmanaged *Araucaria* reforestation; and three areas in different successional stages; (3) initial to intermediary succession, (4) intermediary to advanced succession, and (5) advanced succession. It is important to highlight the area 4 was the same point surveyed by PROFAUPAR project to the locality "Ponta Grossa". Detailed information about these areas could be found in Ganho and Marinoni (2003).

#### Data Collection

One Malaise trap was installed in each locality of the PROFAUPAR and in each area of the PROVIVE and the samples were removed weekly during the two years of each project. The Cassidinae *s. str.* specimens were identified using relevant bibliography and compared with the material from the Coleção Entomológica Pe. J. S. Moure (DZUP). All specimens were deposited in DZUP collection of the Zoology Department of the Universidade Federal do Paraná (UFPR) in Curitiba (Paraná state, Brazil).

#### RESULTS AND DISCUSSION

Among 176 specimens, belonging to 39 species of 16 genera of Cassidinae *s. str.* sampled (Table I), 23 were collected during PROFAUPAR, whereas during PROVIVE representatives of 30 species were sampled, of which 13 in common with those from PROFAUPAR. Among the localities sampled by the PROFAUPAR project, Ponta Grossa was the most diverse. The richest genera were *Charidotis* with 12 species, *Microctenochira* with eight species and *Charidotella* with three species. The most abundant species was *Charidotis consentanea* (Boheman, 1855) with 26 specimens. Of the 39 species collected, 22

are registered for the first time to Paraná, 11 species are new records to South Brazil, and *Microctenochira acharidi* (Spaeth, 1926) represents a new record to Brazil (Figure 2J). *Charidotis furunculus* (Boheman, 1855) (Figure 2D), a new record to Southern Brazil, presents the widest distribution area, having been collected in four localities: Antonina, Guarapuava, Jundiaí do Sul and Ponta Grossa (Table 1).

Among Chrysomelidae subfamilies, Galerucinae is the most sampled by Malaise trap, whereas the Cassidinae *s. str.* are among the less collected (Linzmeier *et al.* 2006; Ganho and Marinoni 2003). This scarceness of Cassidinae *s. str.* in passive collection techniques is possibly due to the fact that adults are rather sessile (Jolivet and Hawkeswood 1995), therefore Malaise, light and pitfalls traps are usually less effective than manual collecting, although not so much time consuming (Flinte *et al.* 2009). However, despite this method is not indicated to capture Cassidinae *s. str.*, this study verified that more than 50% of the species collected are new records to Paraná/Southern Brazil and one species is a new record to Brazil. This indicates that the method was able to collect a significant sample of Cassidinae *s. str.* species in areas without any kind of insect collecting. We observe that 32 of the 39 species collected are representatives of the Cassidini tribe. Most of Cassidini species are small (less than 10mm), good flyers, very diverse and abundant. Since the Malaise trap was built to catch insects when they are flying, these species are expected to be the more frequent than other Cassidinae *s. str.* in such samplings. Hand-collecting is the most common method for collect Cassidinae *s. str.*, but requires a great effort searching the host plants and often fail to obtain a good representation of the area. In this way, even if the purpose of the projects was not directly to capture these species, the fauna sampled by these projects was significant for recognition of species that occurring in Paraná and improve the knowledge of the distribution areas for the group.

#### Tribe Cassidini Gyllenhal, 1813

Cassidini presents 87 genera and 1,394 species (Borowiec and Swietojanska 2012). In the present work were find 10 genera, 32 species and 22 new distribution records. The geographic distribution records and host plants follow Borowiec and Swietojanska (2012). (\*) New record to Paraná; (\*\*) New record to South Brazil; (\*\*\*) New record to Brazil.

##### 1. *Agroiconota inedita* (Boheman, 1855)

Host plants (Marques 1932; Buzzzi 1994): Convolvulaceae: *Ipomoea batatas* and *Ipomoea purpurea*.

Distribution: *Bolivia*: Santa Cruz; *Brazil*: Pará, Pernambuco, Mato Grosso, Minas Gerais, Rio de Janeiro, São Paulo, Paraná, Santa Catarina; *Paraguay*: Amambay, Asuncion, Puerto P. Stroessner; *Argentina*: Chaco, Jujuy, Misiones, Salta.

##### 2. *Charidotella hoegbergi* (Boheman, 1855)\* (Figure 2A)

Host plants: No records.

Distribution: *Mexico*: Vera Cruz; *Costa Rica*; *Panamá*: Cerro Campana; *French Guyana*: Kourou, Maroni; *Brazil*: Pará,



Mato Grosso, Rio de Janeiro, São Paulo, Rio Grande do Sul; *Paraguay*: Dept. Central, Asuncion; *Argentina*: Misiones. **New record to Paraná.**

3. ***Charidotella immaculata* (Oliver, 1790)\* (Figure 2B)**

Host plants (Silva *et al.* 1968): Convolvulaceae: *Ipomoea batatas*.

Distribution: *Dominican Republic*; *Trinidad and Tobago*; *Venezuela*: Bolivar, Delta Amacuro, Miranda, Portuguesa; *Surinam*: Paramaribo; *French Guyana*; *Colombia*; *Ecuador*: Esmeraldas, Napo, Pichincha; *Peru*: Junin, Madre De Dios; *Bolivia*: Santa Cruz; *Brazil*: Pará, Pernambuco, Goiás, Mato Grosso, Minas Gerais, Rio de Janeiro, São Paulo, Santa Catarina, Rio Grande do Sul; *Paraguay*: Asuncion, Itabo, Puerto P. Stroessner, Villa Hayes, Villarica; *Argentina*: Salta. **New record to Paraná.**

4. ***Charidotella rubicunda* (Guérin-Méneville, 1844)**

Host plants (Buzzi 1994; Flinte *et al.* 2008): Convolvulaceae: *Ipomoea alba* and *Ipomoea* sp.

Distribution: *Ecuador*: Napo; *Peru*: Callanga, Marcapata; *Bolivia*: Santa Cruz; *Brazil*: Amazonas, Bahia, Mato Grosso, Minas Gerais, Rio de Janeiro, São Paulo, Paraná; *Paraguay*: Puerto P. Stroessner; *Argentina*: Misiones, Tucuman.

5. ***Charidotis annularis* (Boheman, 1855)\*\* (Figure 3A)**

Host plants (Flinte *et al.* 2008): Bignoniaceae.

Distribution: *Brazil*: Rio de Janeiro. **New record to Paraná and South Brazil.**

6. ***Charidotis auroguttata* Boheman, 1855\* (Figure 2C)**

Host plants (Lima 1955; Fiebrig 1910; Williams 2002): Bignoniaceae: *Bignonia exoleta* and *Macfadyena unguis-cati*.

Distribution: *Mexico*: Tamaulipas; *Belize*; *Guatemala*: Vera Paz; *Venezuela*: Caracas; *Brazil*: Amazonas, Pará, Mato Grosso, Goiás, Rio de Janeiro, Santa Catarina, Rio Grande do Sul; *Bolivia*: Santa Cruz; *Ecuador*: Napo, Sucumbios; *Paraguay*: Asuncion, Depto. Central, Presidente Hayes, San Lorenzo, Sta. Trinidad; *Argentina*: Salta. **New record to Paraná.**

7. ***Charidotis consentanea* (Boheman, 1855)**

Host plants: No records.

Distribution: *Brazil*: Paraná, Santa Catarina, Rio Grande do Sul; *Paraguay*: Asuncion; *Argentina*: Misiones.

8. ***Charidotis contexta* (Boheman, 1855)\*\* (Figure 3B)**

Host plants: No records.

Distribution: *Brazil*: Rio de Janeiro. **New record to Paraná and South Brazil.**

9. ***Charidotis formosa* (Boheman, 1855)**

Host plants: No records.

Distribution: *Brazil*: Goiás, Paraná.

10. ***Charidotis furunculus* (Boheman, 1855)\* (Figure 2D)**

Host plants (Flinte *et al.* 2008): Bignoniaceae.

Distribution: *Brazil*: Rio de Janeiro, São Paulo, Rio Grande do Sul; *Argentina*: Misiones. **New record to Paraná.**

11. ***Charidotis gemellata* Boheman, 1855**

Host plants (Fernandes and Buzzi 2007): Bignoniaceae: *Pithecoctenium crucigerum*.

Distribution: *Brazil*: Paraná, Santa Catarina, Rio Grande do Sul.

12. ***Charidotis petulans* Spaeth, 1936\*\* (Figure 3C)**

Host plants: No records.

Distribution: *Brazil*: Goiás, Mato Grosso. **New record to Paraná and South Brazil.**

13. ***Charidotis princeps* Spaeth, 1936**

Host plants: No records.

Distribution: *Brazil*: Paraná.

14. ***Charidotis pupilatta* (Boheman, 1855)\* (Figure 2E)**

Host plants: No records.

Distribution: *Brazil*: São Paulo, Santa Catarina. **New record to Paraná.**

15. ***Charidotis* sp. 1**

No sufficient data.

16. ***Charidotis* sp. 2**

No sufficient data.

17. ***Deloyala cruciata* (Linnaeus, 1758)**

Host plants (Monte, 1932): Convolvulaceae: *Ipomoea batatas*.

Distribution: *Trinidad and Tobago*; *Venezuela*: Aragua, Bolivar, Miranda, Sucre; *Guyana*: Georgetown; *French Guyana*: Acarouany, Cayenne, Kourou, Montjoly, Remire, St. Laurent; *Brazil*: Amazonas, Pará, Mato Grosso, Minas Gerais, Rio de Janeiro, Paraná, Santa Catarina, Rio Grande do Sul; *Peru*: Huallaga, Loreto, Satipo, Tocache; *Bolivia*: Buenavista, Coroico; *Paraguay*: Alto Parana, Itabo; *Argentina*: Jujuy, Misiones, Salta.

18. ***Helocassis flavorugosa* (Boheman, 1855)\*\* (Figure 3E)**

Host plants (Flinte *et al.* 2008): Commelinaceae: *Commelina erecta*.

Distribution: *Brazil*: Rio de Janeiro. **New record to Paraná and South Brazil.**

19. ***Ischnocodia succincta* Boheman, 1855\*\* (Figure 3F)**

Host plants: No records.

Distribution: *Brazil*: Rio de Janeiro. **New record to Paraná and South Brazil.**

20. ***Leptocodia* sp.**

No sufficient data.

21. ***Microctenochira achardi* (Spaeth, 1926)\*\*\* (Figure 2J)**

Host plants: No records.

Distribution: *Paraguay*: Estancia Postillon, Puerto Max am Rio Paraguay; *Argentina*: Misiones, Parana, S. Ignacio. **New record to Brazil.**

22. ***Microtenochira aciculata* (Boheman, 1855)\* (Figure 2F)**

Host plants (Monte 1932; Silva *et al.* 1968): Convolvulaceae: *Ipomoea batatas* and Fabaceae: *Phaseolus* sp.

Distribution: *Brazil*: Bahia, Rio de Janeiro; São Paulo, Santa Catarina; *Paraguay*: Caagualu; *Argentina*: Jujuy, Misiones. **New record to Paraná.**

23. ***Microtenochira difficilis* (Boheman, 1855)\*\* (Figure 3G)**

Host plants (Flinte *et al.* 2008): Convolvulaceae: *Ipomoea* sp.

Distribution: *Ecuador*: Napo; *Peru*: Canchamajo; *Brazil*: Bahia, Rio de Janeiro, São Paulo. **New record to Paraná and South Brazil.**

24. ***Microtenochira gemina* (Boheman, 1855)\*\* (Figure 3H)**

Host plants: No records.

Distribution: *Brazil*: Pará. **New record to Paraná and South Brazil.**

25. ***Microtenochira liquidata* (Spaeth, 1926)\*\* (Figure 3I)**

Host plants: No records.

Distribution: *Brazil*. **New record to Paraná and South Brazil.**

26. ***Microtenochira optata* (Boheman, 1855)**

Host plants (Silva *et al.* 1968): Convolvulaceae: *Ipomoea batatas* and Fabaceae: *Phaseolus* sp.

Distribution: *French Guyana*: Kourou; *Brazil*: Pará, Alagoas, Bahia, Goiás, Mato Grosso, Minas Gerais, Rio de Janeiro, São Paulo, Paraná, Santa Catarina, Rio Grande do Sul; *Peru*: Chanchamayo, Satipo; *Bolivia*: La Paz; *Paraguay*: Puerto P. Stroessner; *Argentina*: Misiones, Salta.

27. ***Microtenochira stigmatica* (Boheman, 1855)**

Host plants: No records.

Distribution: *Brazil*: Bahia, Rio de Janeiro, Paraná, Santa Catarina, Rio Grande do Sul.

28. ***Plagiometriona ludicra* (Boheman, 1855)\* (Figure 2G)**

Host plants: No records.

Distribution: *Brazil*: Rio de Janeiro, Santa Catarina, Rio Grande do Sul. **New record to Paraná.**

29. ***Plagiometriona punctatissima* (Boheman, 1855)\* (Figure 2H)**

Host plants: No records.

Distribution: *Brazil*: Santa Catarina; *Argentina*: Corrientes. **New record to Paraná.**

30. ***Syngambria andreae* (Boheman, 1855)\*\* (Figure 3J)**

Host plants: No records.

Distribution: *Brazil*: Mato Grosso, Rio de Janeiro; *Bolivia*: Sara; *Paraguay*: Hohenau.

31. ***Syngambria bisinuata* (Boheman, 1855)\* (Figure 2I)**

Host plants (Fiebrig, 1910): *Pithecoctenium echinatum*.

Distribution: *Brazil*: Pará, Mato Grosso, Rio de Janeiro, Santa Catarina, Rio Grande do Sul; *Bolivia*: Chiquitos, Santa Cruz; *Paraguay*: Asuncion; *Argentina*: Misiones. **New record to Paraná.**

**Tribe Goniocheniini Spaeth, 1942**

Goniocheniini presents five genera and 30 species (Borowiec and Swietojanska 2012). In the present work were find one genera and one species. The geographic distribution records follow Borowiec and Swietojanska (2012).

32. ***Chlamydocassis cribripennis* (Boheman, 1850)**

Host plants (Buzzi 1994; Swietojanska *et al.* 2005): Lamiaceae: *Hyptis muelleri* and *Hyptis suaveolens*.

Distribution: *Brazil*: Bahia, São Paulo, Paraná, Santa Catarina, Rio Grande do Sul; *Bolivia*; *Paraguay*: Guaira, Primavera, Paraguari, Villa Rica; *Argentina*: Buenos Aires, Corrientes, Misiones, Tucuman.

**Tribe Ischyrosomychini Chapuis, 1875**

Ischyrosomychini presents seven genera and 68 species (Borowiec and Swietojanska 2012). In the present work were find one genera, two species and one new distribution record. The geographic distribution records follow Borowiec and Swietojanska (2012). (\*\*) **New record to South Brazil.**

33. ***Cistudinella lateripunctata* Spaeth, 1905\*\* (Figure 3D)**

Host plants (Fiebrig 1910): Boraginaceae: *Patagonula americana*.

Distribution: *Brazil*: Rio de Janeiro, Rio Grande do Sul; *Bolivia*; *Paraguay*: Asuncion, Caacupé; *Argentina*: Chaco, Misiones; *Uruguay*. **New record to Paraná.**

34. ***Cistudinella notata* (Boheman, 1854)**

Host plants (Flinte *et al.* 2008): Boraginaceae: *Cordia monosperma* and *Cordia polycephala*.

Distribution: *Brazil*: Bahia, Minas Gerais, Rio de Janeiro, Sao Paulo, Paraná, Santa Catarina, Rio Grande do Sul; *Paraguay*: Encarnacion, Itabo, Limoy; *Argentina*: Corrientes, Misiones.

**Tribe Mesomphaliini Hope, 1940**

Mesomphaliini presents 24 genera and 552 species (Borowiec and Swietojanska 2012). In the present work were find two genera and three species. The geographic distribution records follow Borowiec and Swietojanska (2012).

35. ***Botanochara impressa* (Panzer, 1789)**

Host plants (Buzzi 1977; Habib and Vasconcellos-Neto 1979; Vasconcellos-Neto 1988; Kerpel and Medeiros 2003): Convolvulaceae: *Ipomoea batatas*, *Ipomoea hederacea*, *Ipomoea acuminata*, *Ipomoea purpurea*, *Ipomoea aristolochiaefolia*, *Ipomoea longicuspis* and *Ipomoea cairica*.

Distribution: *Brazil*: Amapá, Amazonas, Pará, Maranhão, Goiás, Minas Gerais, São Paulo, Paraná, Santa Catarina; *Peru*: Junin; *Bolivia*: Chaco; *Paraguay*; *Argentina*: Misiones.



**36. *Stolas antiqua* (Sahlberg, 1823)**

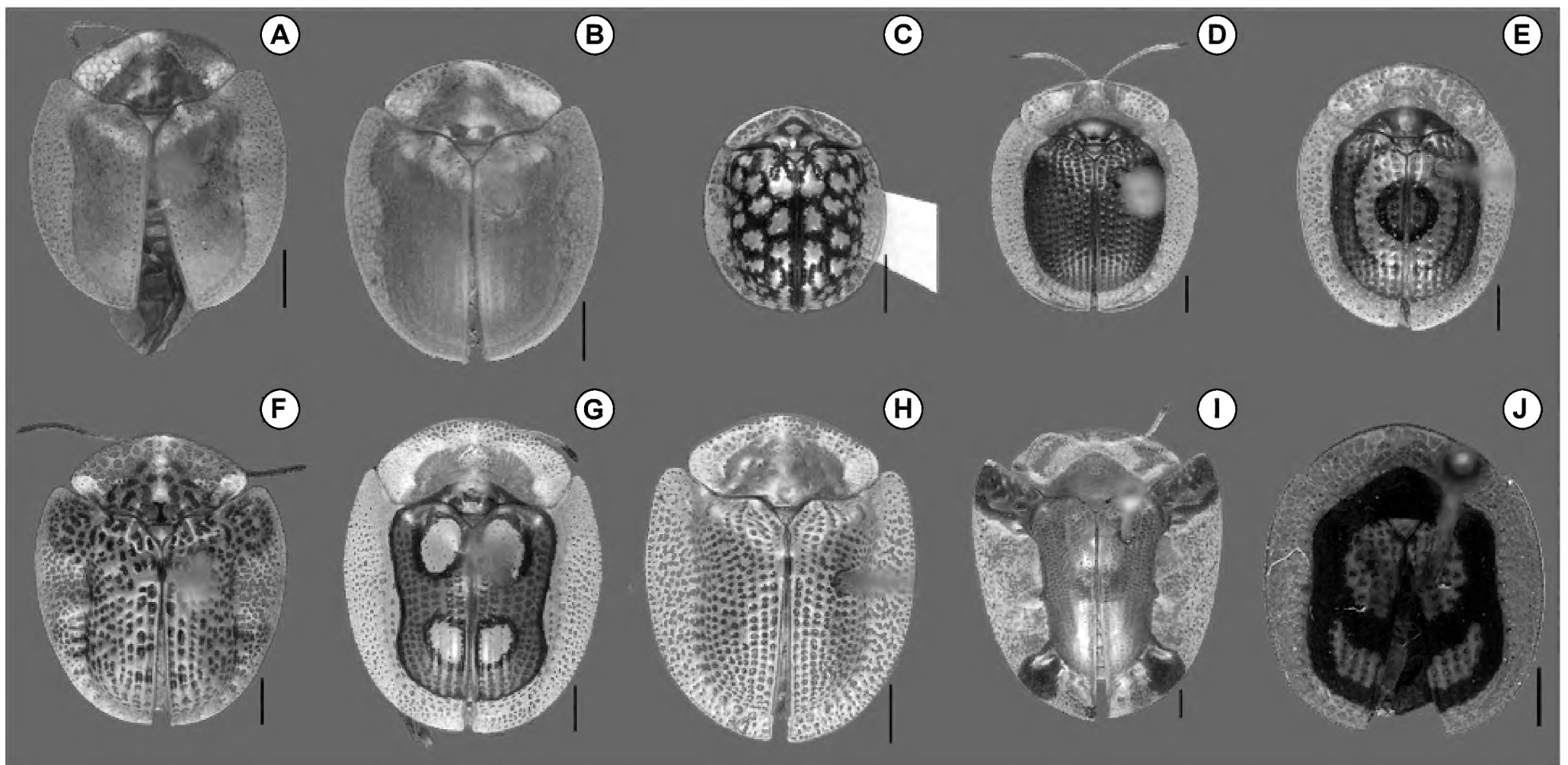
Host plants: No records.

Distribution: *Brazil*: Mato Grosso, Rio de Janeiro, São Paulo, Paraná, Santa Catarina, Rio Grande do Sul; *Paraguay*: Asuncion, Itabo, Kanindeyu, Sta. Trinidad; *Argentina*: Misiones, Rio Salado.**37. *Stolas chalybaea* (Germar, 1824)**Host plants (Fiebrig 1910; Buzzi 1994): Asteraceae: *Mikania glomerata* and *Mikania cordifolia*.Distribution: *Brazil*: Pará, São Paulo, Paraná, Santa Catarina, Rio Grande do Sul; *Paraguay*; *Argentina*:

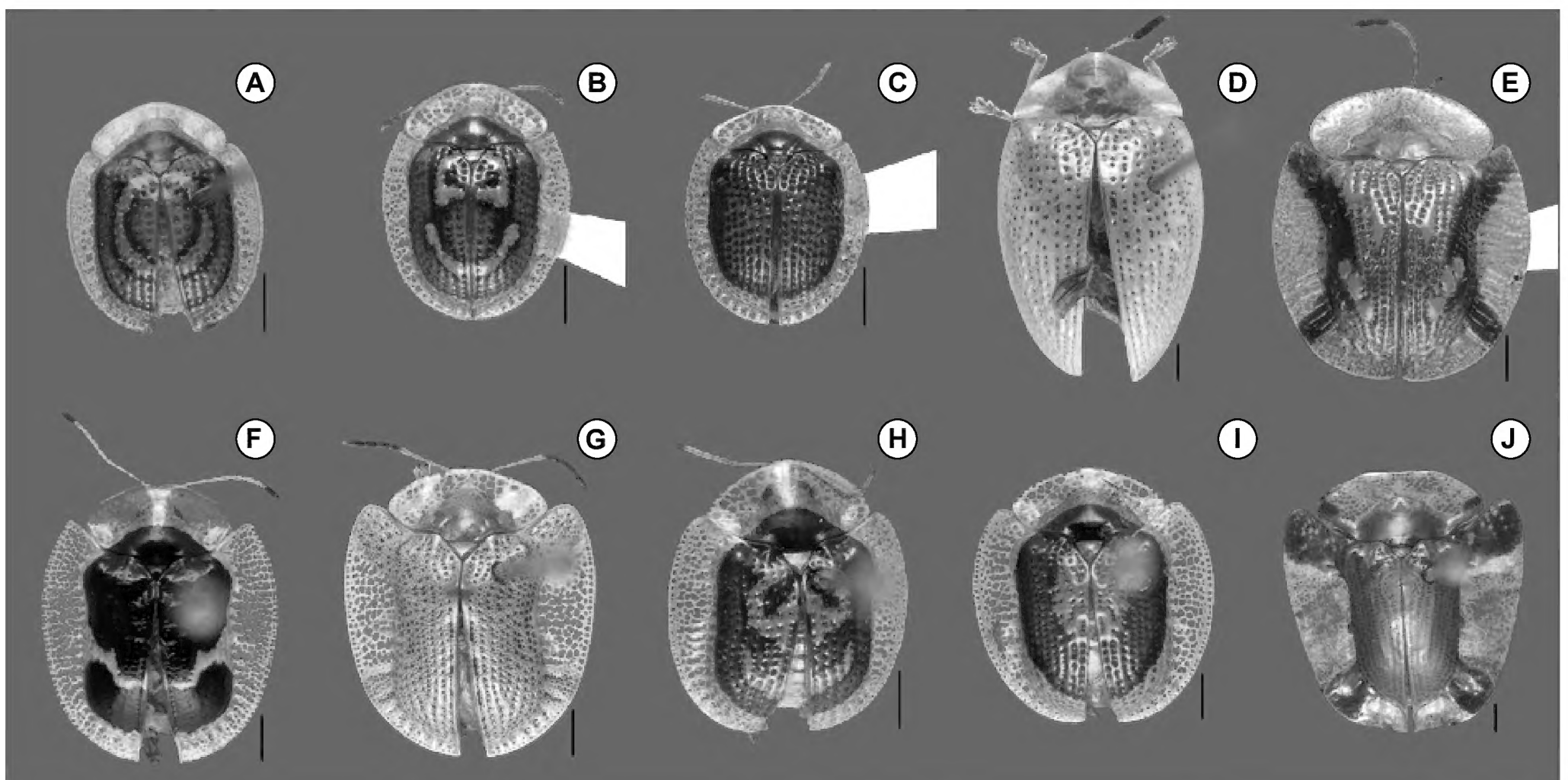
Misiones, Tucuman.

**Tribe Omocerini Hincks, 1952**

Omocerini presents seven genera and 150 species (Borowiec and Swietojanska 2012). In the present work were find one genera and one species. The geographic distribution records follow Borowiec and Swietojanska (2012).

**38. *Canistra rubiginosa* (Guérin-Méneville, 1844)**Host plants (Flinte *et al.* 2008): Boraginaceae: *Cordia polycephala*.Distribution: *Brazil*: Bahia, Goiás, Minas Gerais, Espírito

**FIGURE 2.** Cassidinae s. str. species with new distribution record to Paraná state (Brazil): (A) *Charidotella hoegbergi*; (B) *Charidotella immaculata*; (C) *Charidotis auroguttata*; (D) *Charidotis furunculus*; (E) *Charidotis pupillata*; (F) *Microtenochira aciculata*; (G) *Plagiometriona ludicra*; (H) *Plagiometriona punctatissima*; (I) *Syngambria bisinuata*. Species with new distribution record to Brazil: (J) *Microtenochira achardi*.



**FIGURE 3.** Cassidinae s. str. species with new distribution record to South Brazil: (A) *Charidotis annularis*; (B) *Charidotis contexta*; (C) *Charidotis petulans*; (D) *Cistudinella lateripunctata*; (E) *Helocassis flavorugosa*; (F) *Ischnocodia succincta*; (G) *Microtenochira difficilis*; (H) *Microtenochira gemina*; (I) *Microtenochira liquidata*; (J) *Syngambria andreae*.

Santo, Rio de Janeiro, São Paulo, Paraná, Santa Catarina, Rio Grande do Sul; *Paraguay*: Alto Parana, Puerto P. Franco, Villa Rica; *Argentina*: Misiones; *Uruguay*: Mercedes, Montevideo, Rio Negro.

Tribe Spilophorini Chapuis, 1875

Spilophorini presents two genera and 30 species (Borowiec and Swietojanska 2012). In the present work

we find one genera and one species. The geographic distribution record follows Borowiec and Swietojanska (2012).

39. *Calyptocephala nigricornis* (Germar, 1824)

Host plants: No records.

Distribution: *Brazil*: Rio de Janeiro, Paraná, Santa Catarina, Rio Grande do Sul.

TABLE 1. Cassidinae s. str. collected in PROFAUPAR and PROVIVE projects. Localities: (A) Antonina; (S) São José dos Pinhais; (C) Colombo; (P) Ponta Grossa; (T) Telêmaco Borba; (J) Jundiá do Sul; (G) Guarapuava; (F) Fênix. (\*) New record to Paraná; (\*\*) New record to South Brazil; (\*\*\*) New record to Brazil.

#	SPECIES	PROFAUPAR							PROVIVE	
		A	S	C	P	T	G	J	F	P
1	<i>Agroiconota inedita</i> (Boheman, 1855)	-	-	-	-	-	-	-	-	1
2	<i>Botanochara impressa</i> (Panzer, 1789)	-	-	-	-	-	-	-	-	1
3	<i>Calyptocephala nigricornis</i> (Germar, 1824)	-	-	-	1	-	-	-	-	1
4	<i>Canistra rubiginosa</i> (Guérin-Ménéville, 1844)	-	-	-	-	-	-	-	-	1
5	<i>Charidotella rubicunda</i> (Guérin-Ménéville, 1844)	-	-	-	-	-	-	-	-	2
6	<i>Charidotella hoegbergi</i> (Boheman, 1855)*	-	-	-	-	-	-	-	-	3
7	<i>Charidotella immaculata</i> (Oliver, 1790)*	-	-	-	-	-	-	-	1	3
8	<i>Charidotis annularis</i> (Boheman, 1855)**	-	-	-	1	-	-	-	-	3
9	<i>Charidotis auroguttata</i> Boheman, 1855*	-	-	1	4	-	-	5	-	2
10	<i>Charidotis consentanea</i> (Boheman, 1855)	-	-	1	4	-	-	-	-	21
11	<i>Charidotis contexta</i> (Boheman, 1855)**	-	-	-	-	-	-	1	-	-
12	<i>Charidotis formosa</i> (Boheman, 1855)	-	-	-	-	-	-	-	-	1
13	<i>Charidotis furunculus</i> (Boheman, 1855)*	2	-	-	-	-	1	4	-	5
14	<i>Charidotis gemellata</i> Boheman, 1855	-	-	-	-	-	-	-	-	1
15	<i>Charidotis petulans</i> Spaeth, 1936**	-	-	6	1	-	-	-	-	4
16	<i>Charidotis princeps</i> Spaeth, 1936	-	-	-	-	-	-	-	-	1
17	<i>Charidotis pupilatta</i> (Boheman, 1855)	-	-	6	2	-	-	-	-	9
18	<i>Charidotis</i> sp. 1	-	-	-	-	-	-	-	-	2
19	<i>Charidotis</i> sp. 2	-	-	-	-	-	-	-	-	3
20	<i>Chlamydocassis cribripennis</i> (Boheman, 1850)	-	-	-	-	-	-	-	-	5
21	<i>Cistudinella lateripunctata</i> Spaeth, 1905**	-	-	-	1	-	-	-	-	-
22	<i>Cistudinella notata</i> (Boheman, 1854)	-	-	-	-	-	-	-	-	1
23	<i>Deloyala cruciata</i> (Linnaeus, 1758)	-	-	1	-	-	-	-	-	-
24	<i>Helocassis flavorugosa</i> (Boheman, 1855)**	1	-	-	-	-	-	-	-	-
25	<i>Ischnocodia succincta</i> Boheman, 1855**	-	-	-	-	-	-	-	-	4
26	<i>Leptocodia</i> sp.	-	1	-	-	-	-	-	-	-
27	<i>Microtenochira achardi</i> (Spaeth, 1926)***	-	-	-	-	-	-	-	1	-
28	<i>Microtenochira aciculata</i> (Boheman, 1855)*	-	-	-	-	-	-	-	-	6
29	<i>Microtenochira difficilis</i> (Boheman, 1855)**	-	-	-	-	-	-	-	1	2
30	<i>Microtenochira gemina</i> (Boheman, 1855)**	-	-	-	-	-	-	1	-	-
31	<i>Microtenochira liquidata</i> (Spaeth, 1926)**	-	1	-	-	-	-	-	-	-
32	<i>Microtenochira optata</i> (Boheman, 1855)	-	-	1	-	1	-	-	-	9
33	<i>Microtenochira stigmatica</i> (Boheman, 1855)	-	-	-	-	-	-	-	-	1
34	<i>Plagiometriona ludicra</i> (Boheman, 1855)*	-	-	-	-	-	2	-	-	6
35	<i>Plagiometriona punctatissima</i> (Boheman, 1855)*	-	-	-	1	-	-	-	-	16
36	<i>Stolas antiqua</i> (Sahlberg, 1823)	-	1	-	1	-	-	-	-	-
37	<i>Stolas chalybaea</i> (Germar, 1824)	-	-	-	-	-	-	-	-	1
38	<i>Syngambria andreae</i> (Boheman, 1855)**	-	-	-	-	-	-	-	3	-
39	<i>Syngambria bisinuata</i> (Boheman, 1855)*	-	-	-	-	-	-	-	-	2
Total		3	3	16	16	1	3	11	6	117



**ACKNOWLEDGMENTS:** We would like to thank Dra. Lúcia Massutti de Almeida and anonymous reviewers for the critical comments on the manuscript. We also thank the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq), for the scholarship of the authors. Thank Dr. Lech Borowiec for help with some identifications. Laboratory of Hymenoptera from MZUSP and Taxonline, for the use of automontage stereomicroscope.

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RECEIVED: September 2012

ACCEPTED: October 2012

PUBLISHED ONLINE: December 2012

EDITORIAL RESPONSIBILITY: Rodrigo Feitosa